



MONTENEGRO

MINISTRY OF SUSTAINABLE DEVELOPMENT  
AND TOURISM



## *Identification and assessment of Landscape*

Sanja Ljeskovic Mitrovic, Strasbourg , March 2015



# MONTENEGRO ID



- area: 13,812 km<sup>2</sup>
- population: 620,145
- capital: Podgorica
- national currency: Euro
- number of sunny days in a year: 180
- climate: Mediterranean and continental



Montenegro has 21 municipalities

- arable land - 37%
- forests - 45%
- urban and rural settlements, roads and waters - 18%

## regions

- coastal region – 1,591 km<sup>2</sup>
- central region – 4,917 km<sup>2</sup>
- northern region – 7,304 km<sup>2</sup>

## population

- coastal region – 23.78 %
- central region – 45.85 %
- northern region – 30.37 %





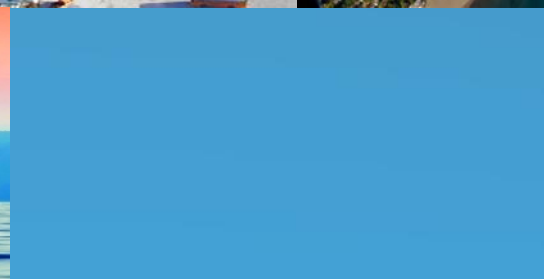
# Montenegrin coast

- Total length – 336.62 km
- Length of beaches – 73 km
- Cities - Herceg Novi, Kotor, Tivat, Budva, Bar, Ulcinj
- Ports - Zelenika, Kotor, Bar

13th COUNCIL OF EUROPE MEETING OF THE WORKSHOPS  
FOR THE IMPLEMENTATION OF  
THE EUROPEAN LANDSCAPE CONVENTION

*"Territories of the future,  
landscape identification and assessment:  
an exercise in democracy"*

*organized by the Council of Europe  
and the Ministry of Sustainable Development and Tourism of Montenegro  
within the framework of the working programme of  
the European Landscape Convention*







**13th COUNCIL OF EUROPE MEETING OF THE WORKSHOPS  
FOR THE IMPLEMENTATION OF THE EUROPEAN LANDSCAPE CONVENTION**

*“Territories of the future, landscape identification and assessment: an exercise in democracy”  
organised by the Council of Europe and the Ministry of Sustainable Development and Tourism of  
Montenegro within the framework of the working programme of the European Landscape  
Convention*

**Cetinje, Montenegro, 2-3 October 2013**







13th Council of Europe Meeting of the Workshops for the implementation of the European Landscape Convention on *“The future of the territories, landscape identification and assessment: an exercise in democracy”* has been organized by Ministry of Sustainable Development and Tourism of Montenegro in co-operation with the Council of Europe – Spatial Planning, Landscape and Cultural Heritage Division, Democratic Governance, Culture and Diversity Directorate.

A study visit was organized on 1st October 2013. We visited Old Royal Capital Cetinje, village Njeguši, Kotor – Old town, Boka Bay, Tivat – Porto Montenegro, by boat from Kotor.





# IDENTIFY, ANALYSE, CHARACTERISE THE LANDSCAPE *TO ACT, IMPROVE THE KNOWLEDGE (LC COE)*

Article 6 – Specific measures, C. Identification and assessment

With the active participation of the interested parties, as stipulated in Article 5.c, and with a view to improving knowledge of its landscapes, each Party undertakes:

- a
  - i to identify its own landscapes throughout its territory;
  - ii to analyse their characteristics and the forces and pressures transforming them;
  - iii to take note of changes;
- b to assess the landscapes thus identified, taking into account the particular values assigned to them by the interested parties and the population concerned.

2 These identification and assessment procedures shall be guided by the exchanges of experience and methodology, organised between the Parties at European level pursuant to Article 8.





Participants from more than 40 countries presented methods, methodologies and tools used in the process of recognition, assessment and planning the landscape using the recommendations of the European Landscape Convention.

The conference workshop was presented about 60 presentation, more than 120 participants, representatives of the states, experts, NGOs, representatives of local communities, students .....

Most important benefit is that the Montenegrin landscape architects, planners, local planners, students and experts have gained new knowledge of the landscape and the use of landscape identification and analysis.





# CETINJE CITY PARK IN MARCH





# MANUAL FOR LANDSCAPE PLANNING IN MONTENEGRO

Implementation within  
Special Purpose Spatial plan  
of COASTAL AREA





**PROTECTED AND PROMOTED MONTENEGRIN LANDSCAPES**, CREATED THROUGH A UNIQUE COMBINATION OF NATURAL AND CULTURAL CONDITIONS, WHICH RETAINS ITS **ATTRACTIVENESS, UNIQUENESS AND CULTURAL IDENTITY**, IS ONE OF THE VISIONS OF THE LANDSCAPE AND SPATIAL PLANNING IN MONTENEGRO.

## **The purpose of the Manual**

- Implementation of the provisions of the European Landscape Convention
- A description of the methodology of the Study and the Landscape Plan
- Definition of clear objectives in landscape planning.
- Definition of the level of preparation of the Study and the Landscape Plan for different planning documents
- Uniformity of planning documents.

## **For whom is the Manual intended**

Planning companies, local governments and legislative authorities and citizens who are interested in planning issues. Landscape planning provides information base for spatial planning and environmental protection

**Harmonization with the law** (Law on Spatial Planning and Construction of Buildings, Law on Environmental Protection, Law on Protection of Cultural heritage, Law on Strategic Environmental Impact Assessment, Forest Law, Law on Agricultural Land etc.)

# Landscape planning tools

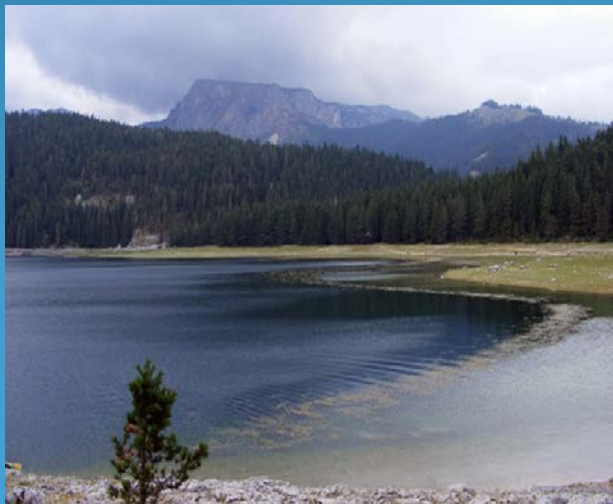
## Landscape study

### Landscape Character assessment

- define the scope of the work at the office, fieldwork, classification and description

Landscape identification and mapping refers to the identification of:

- **Landscape character types**
- **Landscape character areas**



## Landscape plan

- **Evaluation** of landscape
- **Vulnerability** analysis
- **Suitability and attractiveness** of landscape for different activities (tourism, recreation, agriculture, industry)
- **The concept** of landscape development
- **Landscape Protection** - principles and measures for the protection and development of natural and cultural landscape
- **Planning and management of landscape** and integral nature protection and landscape development for existing and intended land use



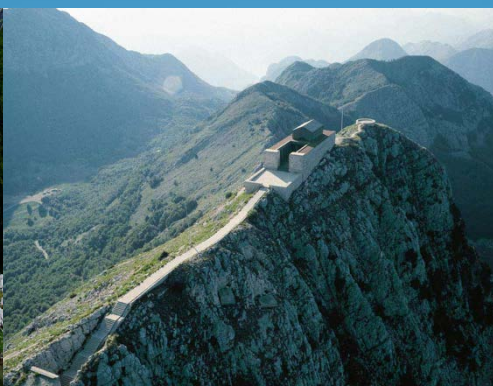
Overlapping maps methodology



# IDENTIFYING AND MAPPING OF COASTAL LANDSCAPE



## COASTAL AREA SPATIAL PLAN





# SECTORAL CHARACTERISATION

## PROBLEMS

## RESPONSE

### THEMES

### DESCRIPTION

### SYNTHESIS

ENVIRONMENT

ENV. & HEALTH

BIODIVERSITY

SOIL/EROSION

SEISMICS (HAZARD)

SURFACE WATERS

GROUND WATERS

SEA

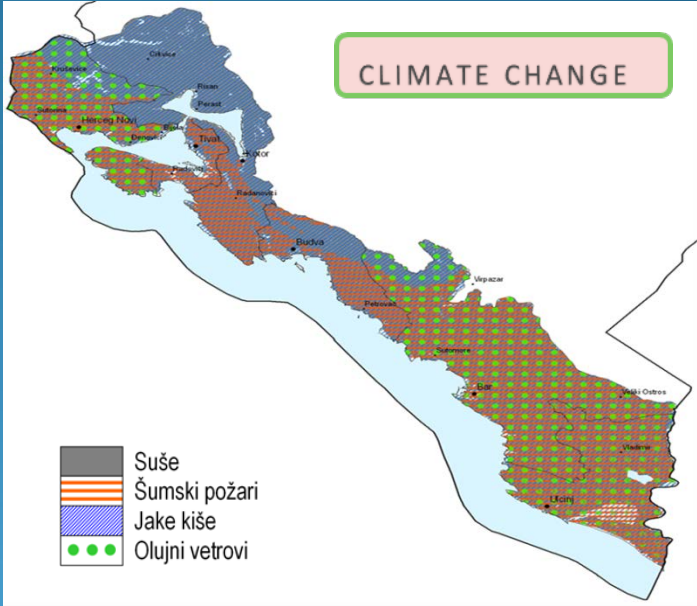
LANDSCAPE

CLIMATE CHANGE

LAND USE

SOCIO-ECONOMICS

GOVERNANCE







## SECTORAL CHARACTERISATION

### THEMES

ENVIRONMENT

LAND USE

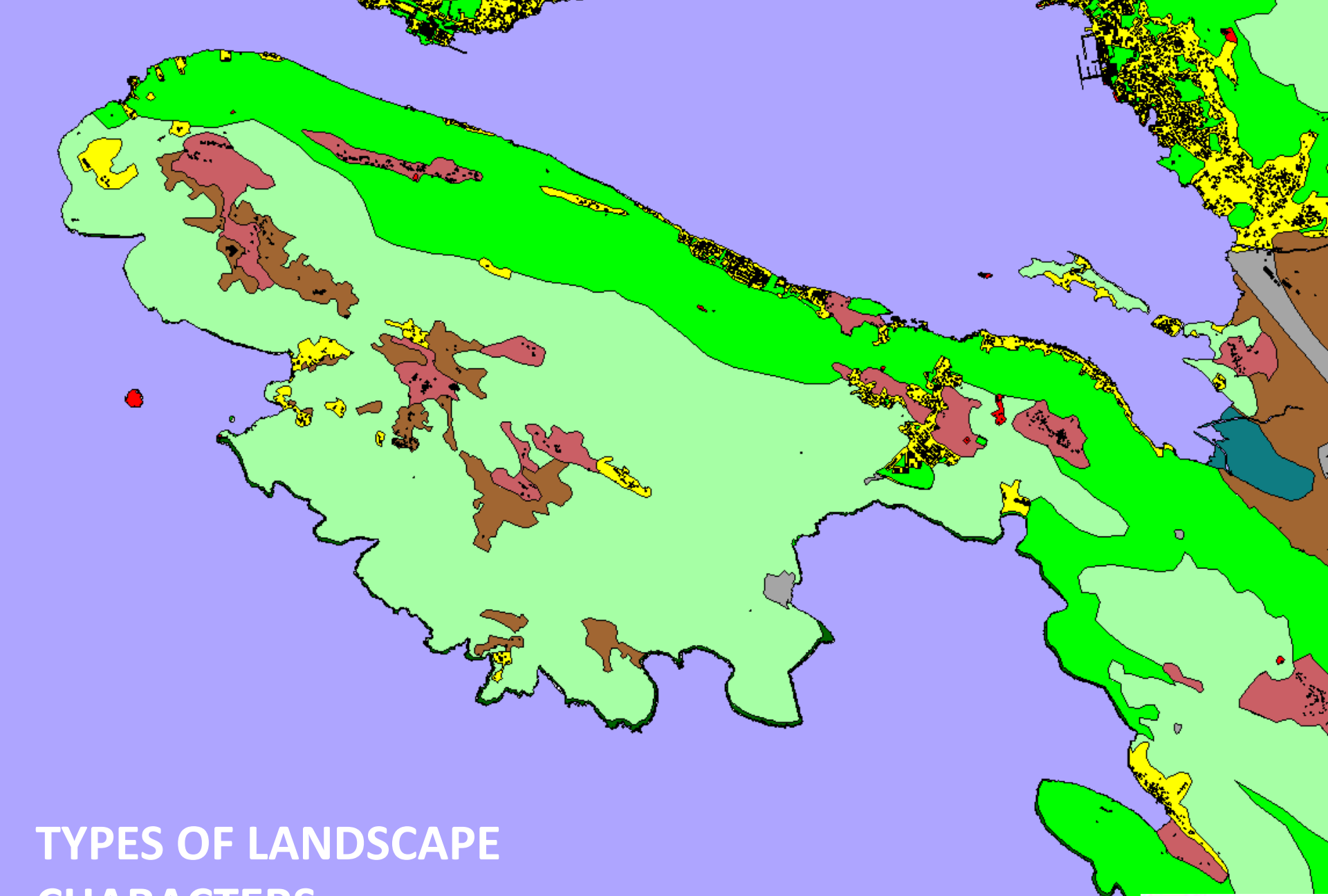
SOCIO-ECONOMICS

GOVERNANCE

### DESCRIPTION

GENERAL VULNERABILITY  
ASSESSMENT (WITH  
POLLUTION)

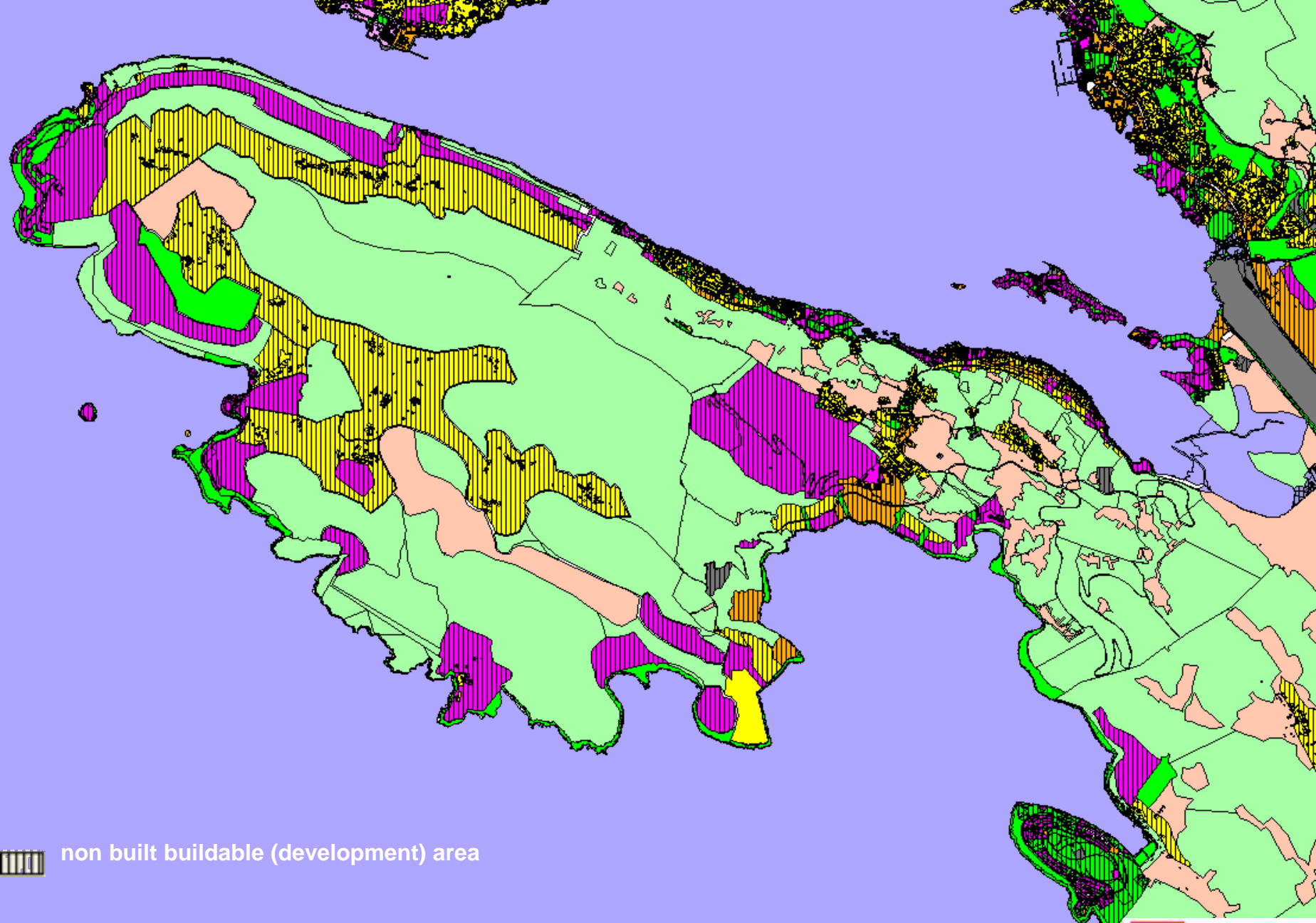
DETAILED VULNERABILITY  
ASSESSMENT (NARROW  
COASTAL ZONE)



# TYPES OF LANDSCAPE CHARACTERS



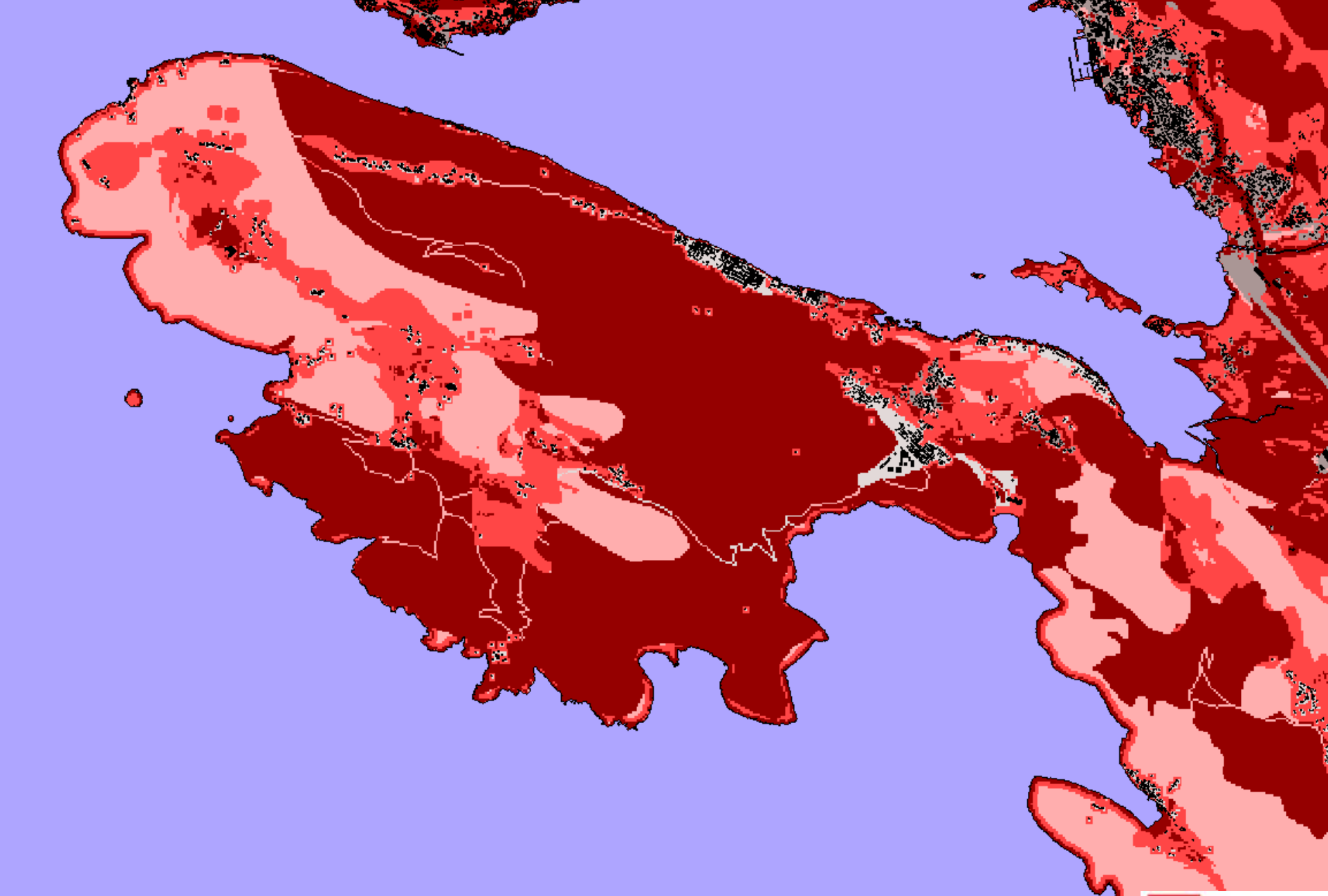




 non built buildable (development) area

# (NON) BUILT ASSESSMENT





# VULNERABILITY ASSESSMENT





1. PROTECTED AREAS

2. OPEN SPACES

a) natural areas

b) rural areas

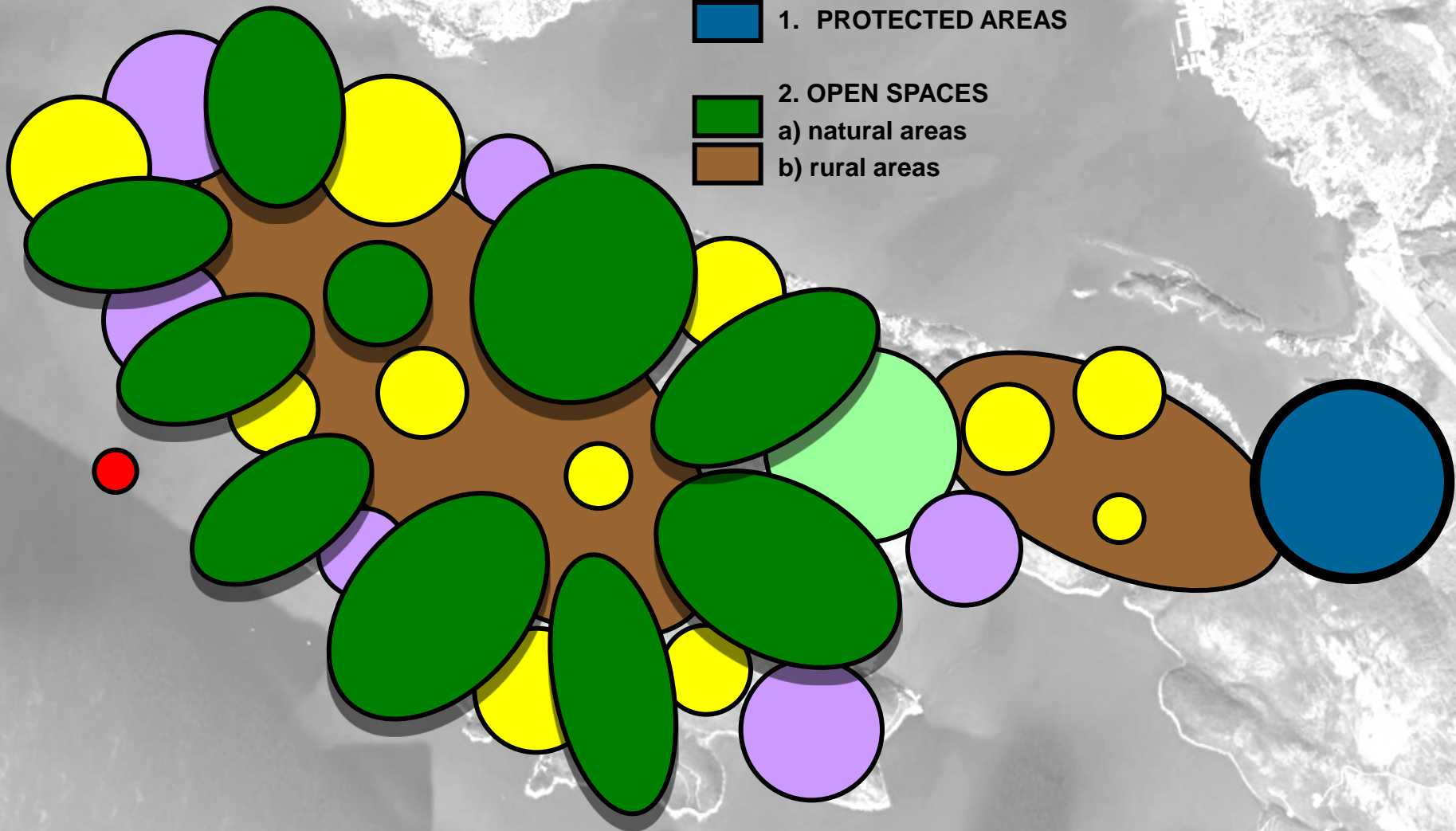
3. SETTLEMENTS

4. OTHER AREAS =

a) buildable (development) areas

out of settlements + b) open areas

# OPEN SPACE CONCEPT



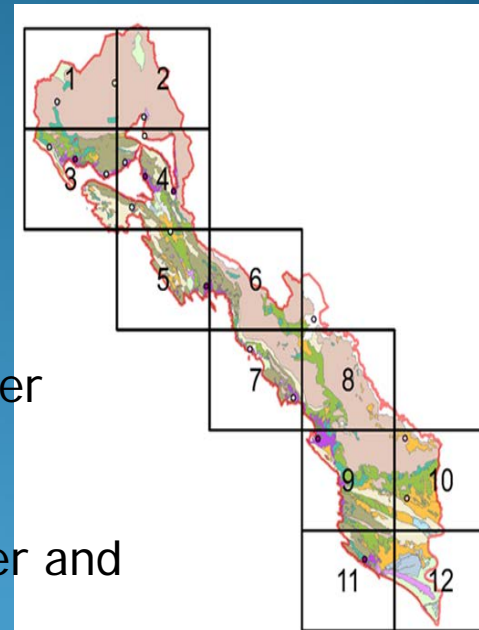
# Coastal area of Montenegro

## Landscape character assessment- Landscape Character areas



Landscape Character areas are individual and unique geographic areas - landscape units

Landscape character areas have their own individual character and identity



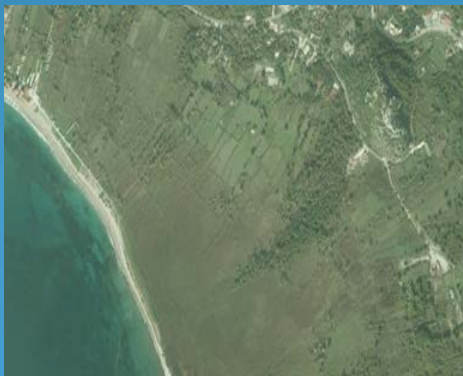
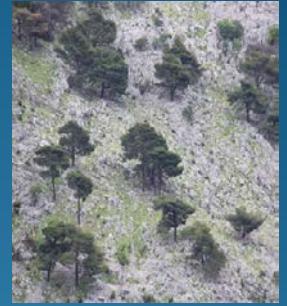
Sector number

4



# Coastal area of Montenegro

Landscape character assessment – Landscape character types



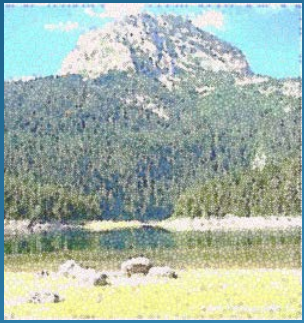


# Coastal area of Montenegro

Landscape character assessment – Landscape character types



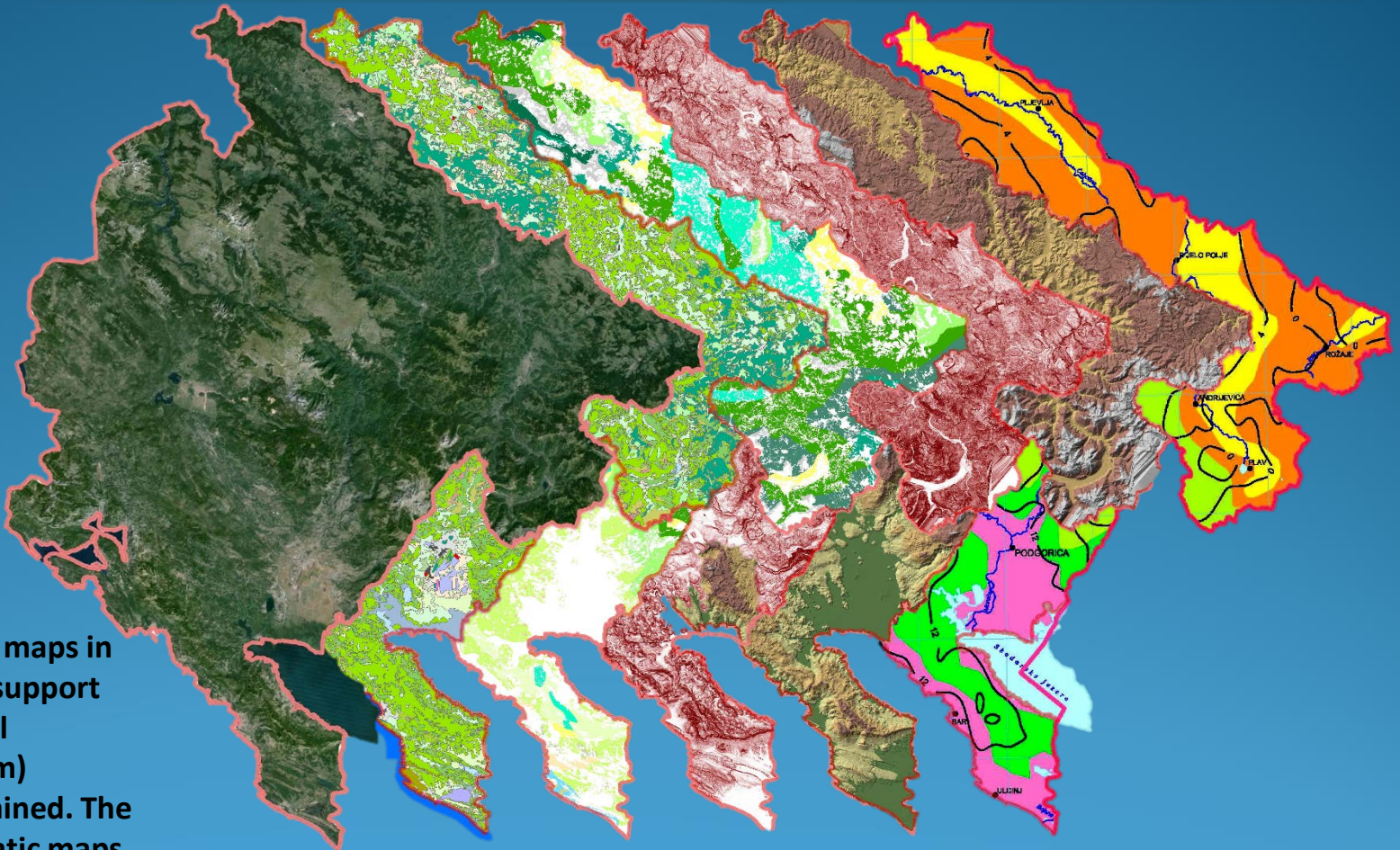




# IDENTIFYING AND MAPPING OF MONTENEGRO LANDSCAPES

## LANDSCAPE CHARACTERISATIONS

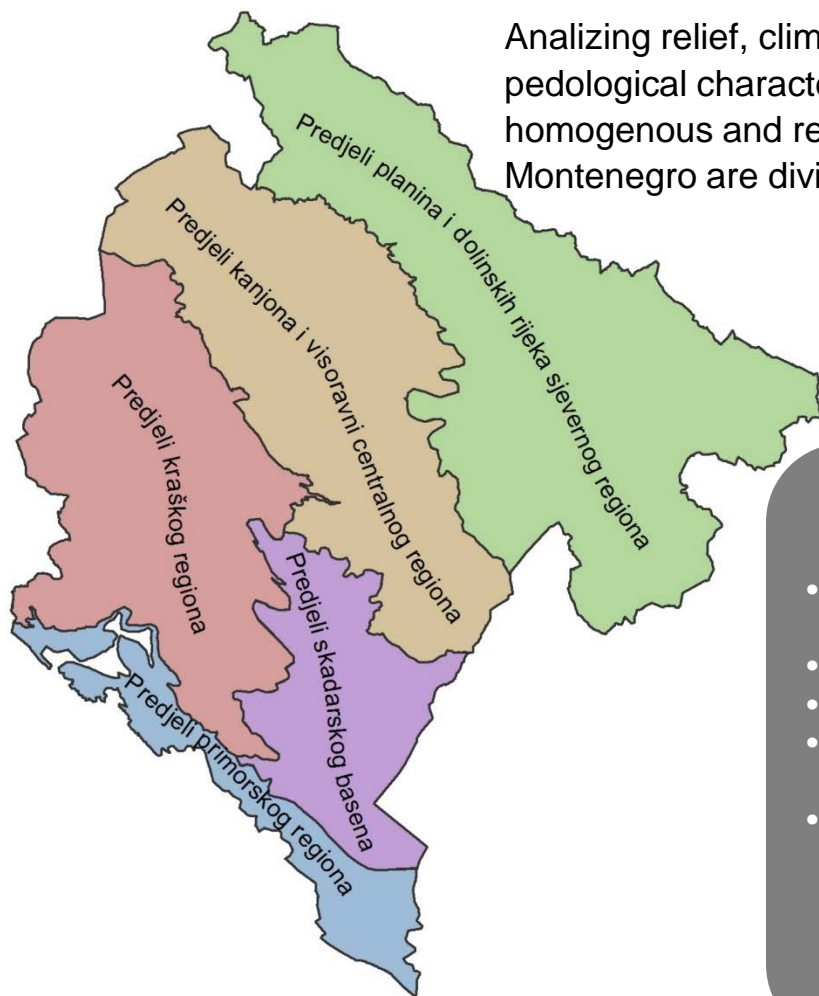




Digitized thematic maps in ArcMap software support (GIS - Geographical Information System) database was obtained. The overlapping thematic maps has allowed a more detailed analysis and identification of landscape.



Analyzing relief, climate, geological and pedological characteristics, ground cover, homogenous and recognizable landscapes of Montenegro are divided into five regions:

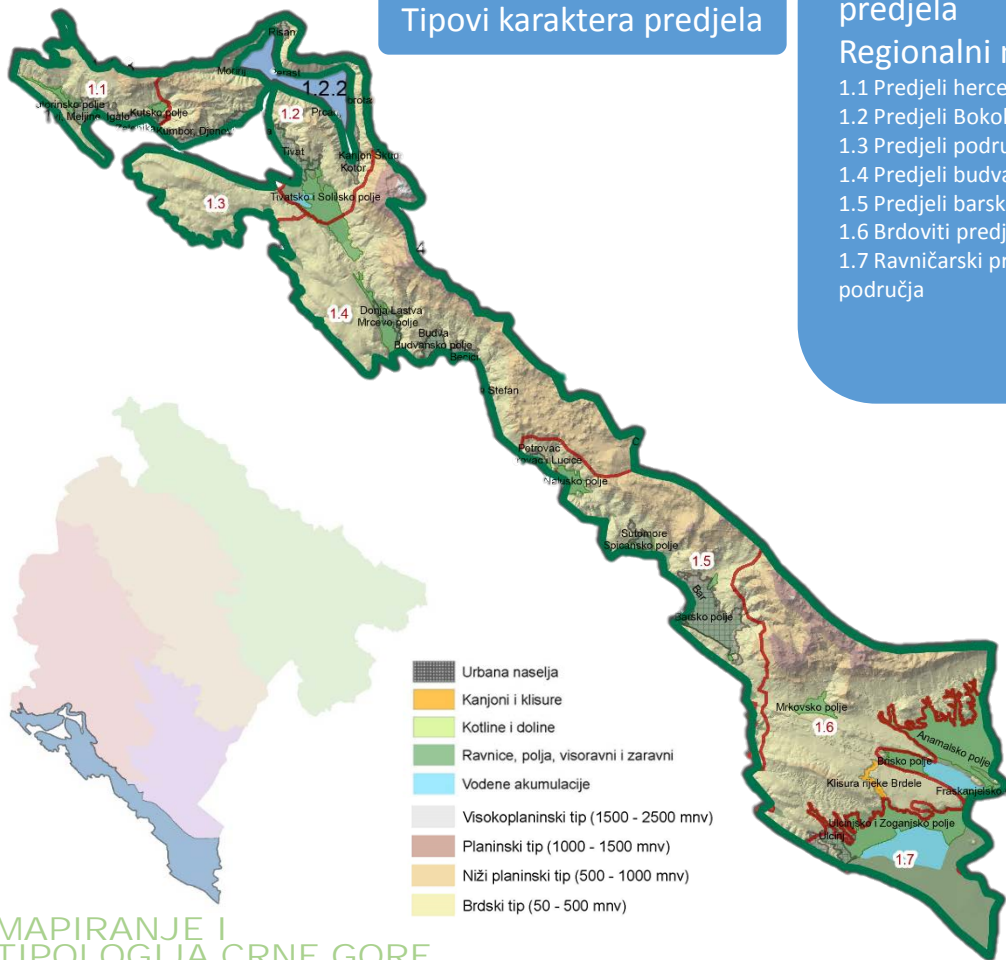


- The areas of the coastal region
- Landscapes of Skadar basin
- The areas of karst region
- The areas of the canyon and plateau central region
- Landscapes of mountains and valleys of rivers in the northern region



# Predjeli primorskog regiona

## Tipovi karaktera predjela



## Područja karaktera predjela

### Regionalni nivo

- 1.1 Predjeli hercegnovskog područja
- 1.2 Predjeli Bokokotorskog zaliva
- 1.3 Predjeli područja Luštica
- 1.4 Predjeli budvanskog područja
- 1.5 Predjeli barskog područja
- 1.6 Brdoviti predjeli ulcinjskog područja
- 1.7 Ravničarski predjeli ulcinjskog područja

## Područja karaktera predjela

### Lokalni nivo

- 1.1.1 Brdoviti predjeli Košare i Žvinja
- 1.1.2 Priobalni predjeli Herceg-Novog
- 1.1.3 Niži planinski predjeli hercegnovskog područja

- 1.2.1 Brdoviti predjeli Vrmca
- 1.2.2 Predjeli Bokokotorskog zaliva
- 1.2.3 Brdoviti predjeli Morinjskog područja
- 1.2.4 Priobalni predjeli Kumbora i Đenovića
- 1.2.5 Ravničarski predjeli tivatskog područja

- 1.3.1 Brdoviti predjeli zalivskog područja Luštica
- 1.3.2 Ravničarski agrikulturni predjeli Luštica
- 1.3.3 Brdoviti predjeli otvorene obale Luštica
- 1.3.4 Priobalni predjeli Krtola

- 1.4.1 Brdoviti predjeli Donjeg Grblja
- 1.4.2 Ravničarski predjeli grbaljskog područja
- 1.4.3 Brdoviti tereni Gornjeg Grblja
- 1.4.4 Niži planinski predjeli lovcenskih primorskih strana
- 1.4.5 Brdoviti predjeli Maine
- 1.4.6 Priobalni predjeli budvanskog područja
- 1.4.7 Brdoviti predjeli Paštrovića

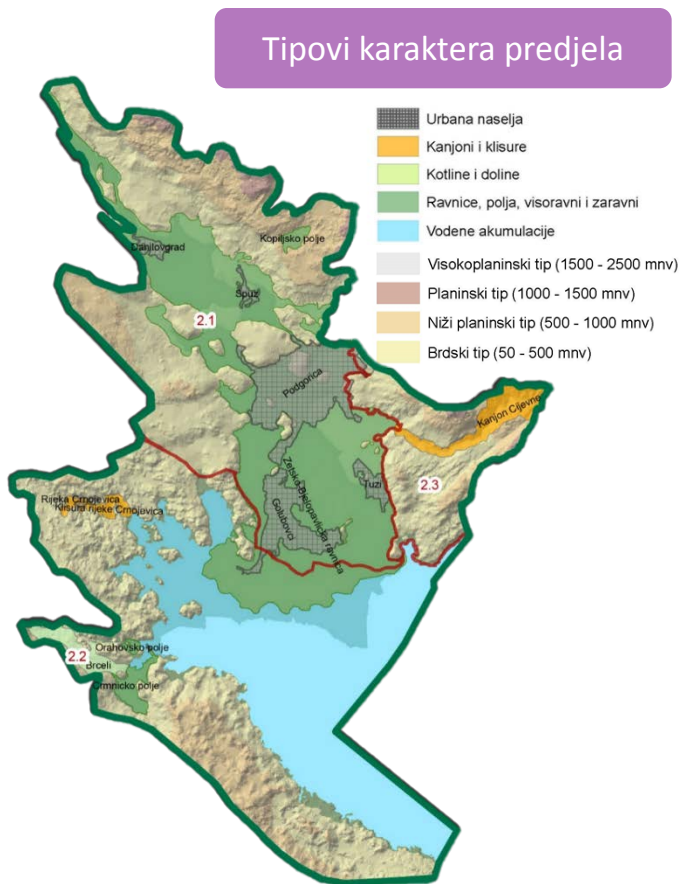
- 1.5.1 Priobalni predjeli barskog područja
- 1.5.2 Niži planinski predjeli Rumije

- 1.6.1 Planinski predjeli Rumije
- 1.6.2 Brdoviti predjeli Anamala
- 1.6.3 Ravničarski predjeli Mrkovskog i Goranskog polja
- 1.6.4 Brdoviti predjeli Briske Gore i Možure
- 1.6.5 Brdoviti predjeli obalnog područja Ulcinja

- 1.7.1 Močvarni predjeli Ulcinjske solane i Delte Bojane
- 1.7.2 Ravničarski predjeli Anamalskog i Šaskog polja
- 1.7.3 Ravničarski predjeli Ulcinjskog i Zoganjskog polja
- 1.7.4 Aluvijalni predjeli Velike plaže



# Predjeli skadarskog basena



## Područja karaktera predjela

### Regionalni nivo

- 2.1 Ravničarski predjeli Zetsko-bjelopavličke ravnice
- 2.2 Predjeli Skadarskog jezera
- 2.3 Predio kanjona rijeke Cijevne

## Područja karaktera predjela

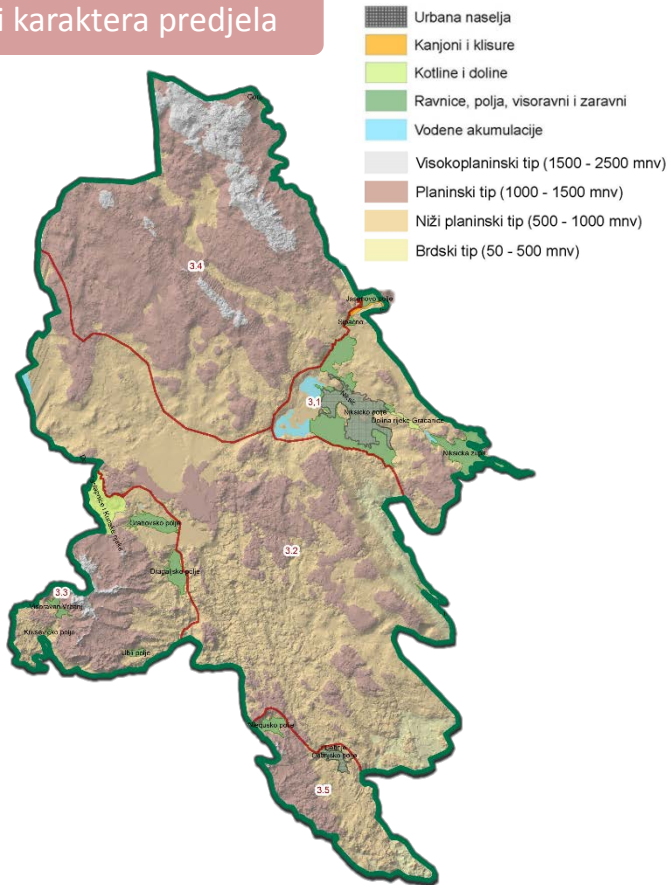
### Lokalni nivo

- 2.1.1 Ravničarski predio područja Podgorice
- 2.1.2 Brdoviti predjeli Komana
- 2.1.3 Brdoviti predjeli Veljeg Brda i Zagača
- 2.1.4 Antropogeni predjeli bjelopavličkog područja
- 2.1.5 Brdoviti predjeli Pipera i Martinića
- 2.2.1 Brdoviti predjeli Krajine
- 2.2.2 Ravničarski agrikulturni predjeli crmničkog područja
- 2.2.3 Brdoviti predjeli Riječke nahije
- 2.2.4 Skadarsko jezero
- 2.3.1 Brdoviti predjeli Drume i Hoti
- 2.3.2 Kanjon Cijevne
- 2.3.3 Brdoviti predjeli Kakaricke gore, Doljana i Fundine



# Predjeli kraškog regiona

## Tipovi karaktera predjela



## Područja karaktera predjela

### Regionalni nivo

- 3.1 Ravničarski kraški predjeli nikšićkog područja
- 3.2 Brdoviti kraški predjeli nikšićkog i cetinjskog područja
- 3.3 Planinski predjeli Orijena
- 3.4 Planinski predjeli nikšićkog područja
- 3.5 Predjeli lovcenskog područja



## Područja karaktera predjela

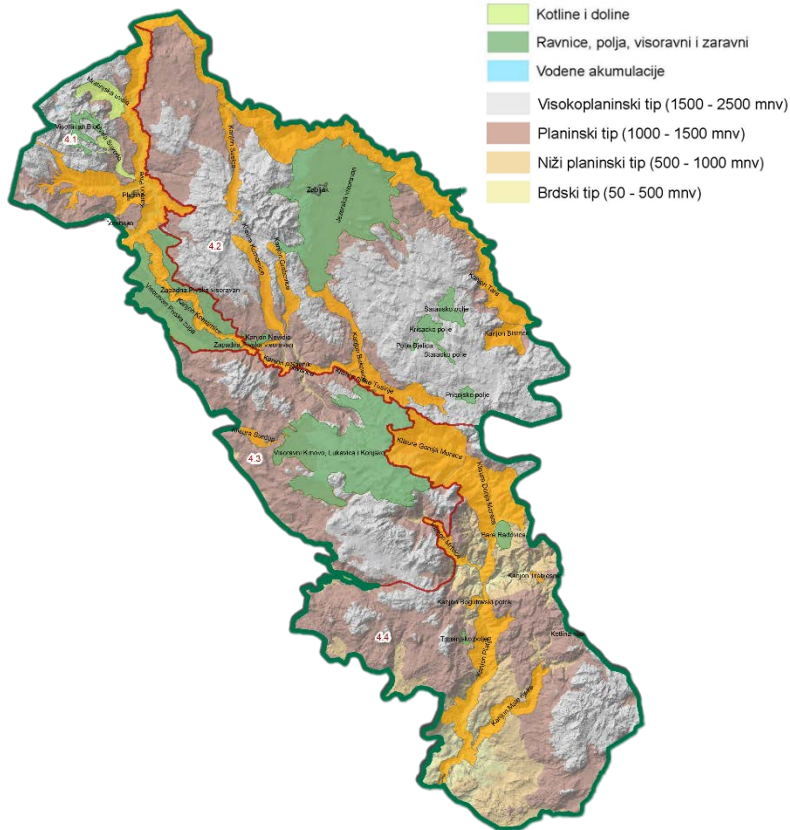
### Lokalni nivo

- 3.1.1 Jezerski predio Krupca i Slanog
- 3.1.2 Ravničarski predio Nikšićkog polja
- 3.1.3 Niži planinski predjeli Ozrniča i Ostroskog područja
- 3.1.4 Ravnicarski predjeli Nikšićke župe
- 3.1.5 Niži planinski i brdoviti predjeli Tovica i Dubrave
- 3.1.6 Ravnicarski predio Jasenovog i Gornjeg polja
- 3.2.1 Niži planinski predjeli Zagore, Cuca, Bjelice i Ceklica
- 3.2.2 Planinski predjeli Plješevice i Budoša
- 3.2.3 Kraški niži planinski predjeli Vračenovići, Petrovići, Vilusi
- 3.3.1 Niži planinski predjeli Orijena
- 3.3.2 Visokoplaninski predjeli Orijena
- 3.3.3 Niži planinski predjeli Krivošija
- 3.3.4 Niži kraški planinski predjeli Grahovo i Nudo
- 3.4.1 Visokoplaninski predjeli Golije
- 3.4.2 Planinski predjeli Rudina i Banjana
- 3.4.3 Visokoplaninski predjeli Njegoša i Somine
- 3.5.1 Niži planinski predjeli Bajica, Zabrda i Ljubotina
- 3.5.2 Planinski sjeveroistočni obronci Lovćena



# Predjeli kanjona i visoravni centralnog regiona

## Tipovi karaktera predjela



## Područja karaktera predjela Regionalni nivo

- 4.1 Predjeli kanjona Pive
- 4.2 Predjeli Durmitora i Sinjajevine
- 4.3 Planinski predjeli nikšickog i šavničkog područja
- 4.4 Predjeli kanjona Morače

## Područja karaktera predjela Lokalni nivo

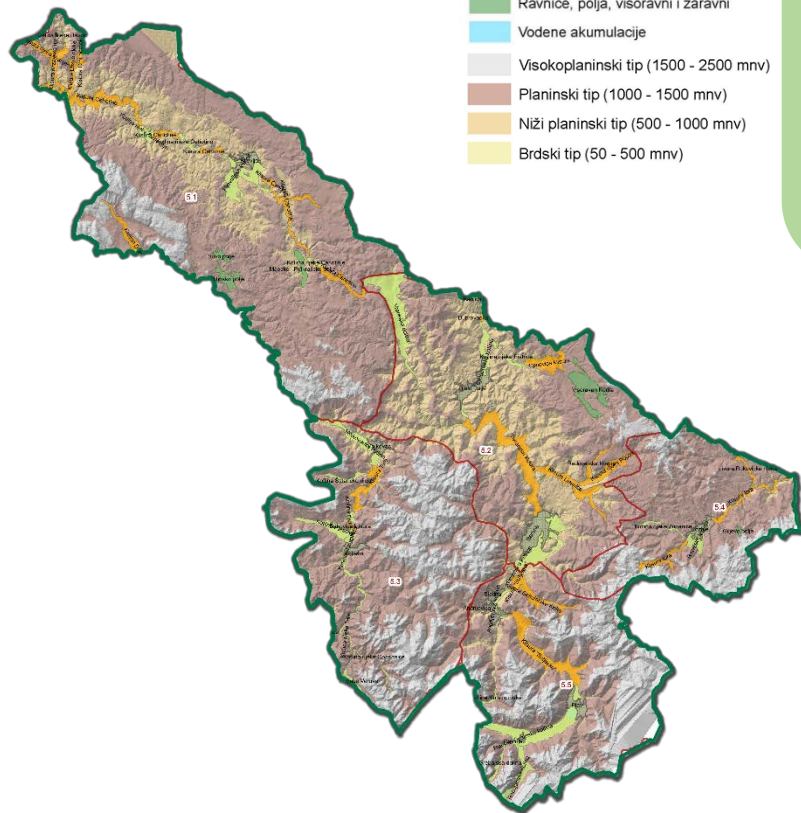
- 4.1.1 Visokoplaninski predjeli Maglića, Volujka i Bioča sa kanjonom Pive
- 4.1.2 Predio Pivske visoravni
- 4.2.1 Visokoplaninski predjeli pivske planine, Durmitora i kanjona Sušice
- 4.2.2 Planinski predjeli Drobunjaka i Uskoka (klisura Komarnice, Šavnik, Tušina, Boan, Semolj)
- 4.2.3 Visokoplaninski predjeli Sinjavine sa kanjonom Tare
- 4.3.1 Planinski i visokoplaninski predjeli Vojnika
- 4.3.2 Predjeli visoravni Krnova, Lukavice i Konjsko
- 4.3.3 Visokoplaninski predjeli Štirovika i Maganika
- 4.4.1 Visokoplaninski predjeli Prekornice i Kamenika
- 4.4.2 Moračke planine sa kanjonom Platije
- 4.4.3 Planinski predjeli Kuča
- 4.4.4 Predio zaravni Bioča i Mrke



# Predjeli planina i dolinskih rijeka sjevernog regiona

## Tipovi karaktera predjela

- Urbana naselja
- Kanjoni i klisure
- Kotline i doline
- Ravnice, polja, visoravni i zaravni
- Vodne akumulacije
- Visokoplaninski tip (1500 - 2500 mnv)
- Planinski tip (1000 - 1500 mnv)
- Niži planinski tip (500 - 1000 mnv)
- Brdski tip (50 - 500 mnv)



## Područja karaktera predjela Regionalni nivo

- 5.1 Predjeli pljevaljskog područja
- 5.2 Predjeli Vraneške doline i Donjeg Kolašina
- 5.3 Predjeli Bjelasice i Komova
- 5.4 Predjeli rožajskog područja
- 5.5 Predjeli plavskog područja



## Područja karaktera predjela Lokalni nivo

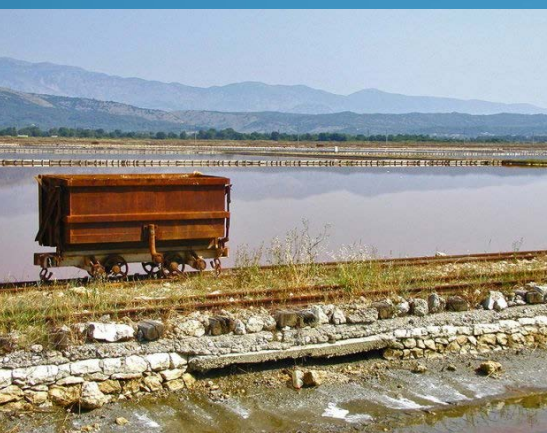
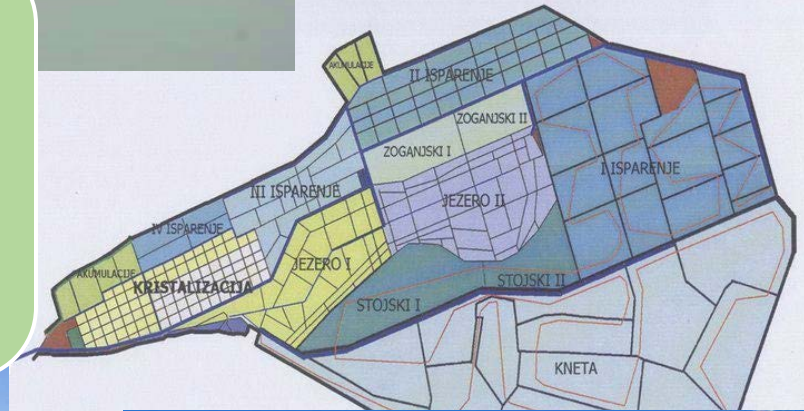
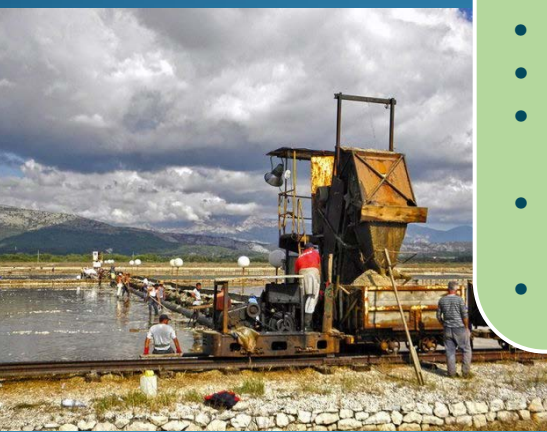
- 5.1.1 Niži planinski predjeli duž sliva rijeke Čehotine
- 5.1.2 Planinski predjeli Podgora, Vrba, Višnjice, Kosanice
- 5.1.3 Planinski predjeli Kovača i Graba
- 5.1.4 Planinski i visokoplaninski predjeli Stožersko-Baričke površi, Slatine, Sokolca i Lekovine
- 5.1.5 Planinski predjeli Ljubišnje i Lisca sa kanjonom Drage
- 5.2.1 Niži planinski predjeli bjelopoljskog područja sa dolinom Lima
- 5.2.2 Planinski predjeli Lise
- 5.2.3 Planinski i visokoplaninski predjeli Đalovica, Korita i Bora
- 5.2.4 Niži planinski predjeli beranskog područja sa Beranskom kotlinom i Tirvanskom klisurom
- 5.3.1 Dolina rijeke Tare
- 5.3.2 Visokoplaninski predio Bjelasice
- 5.3.3 Visokoplaninski predio Komova
- 5.4.1 Predjeli doline Ibra i Rožajske kotline
- 5.4.2 Visokoplaninski predjeli Hajle
- 5.4.3 Planinski i visokoplaninski predjeli Vlahova
- 5.5.1 Predjeli andrijevičke i plavsko-gusinjske kotline
- 5.5.2 Planinski i visokoplaninski predjeli Zeletina i Visitora
- 5.5.3 Visokoplaninski predjeli Prokletija



# Ulcinj Salina



- 14.5 km<sup>2</sup>
- Municipality Ulcinj
- Owner of Solana
- Ministry of Sustainable development and Tourism
- NGO s Center for birdwatching and Green Home
- Local Touristic Organization







Skadarsko Jezero

Bar

Krute

Ulcinjaska solana

Ulcinj

AL

Image © 2006 TerraMetrics

© 2006 Europa Technologies

© 2006 Google





Thank you for your attention!